

CLAIMS

WHAT IS CLAIMED IS:

- 5 1. A method comprising:
 generating a number of inline class-type checks for a site, wherein the number is selected to minimize a cost of the class-type checks at runtime.
- 10 2. The method of claim 1, further comprising:
 generating an out-of-line function call for any class-type checks that are not inlined.
- 15 3. The method of claim 1, further comprising:
 calculating the number based on a cost of the inline class-type check.
4. The method of claim 2, further comprising:
 calculating the number based on a cost of the out-of-line function.
- 20 5. The method of claim 1, further comprising:
 generating a branch hint for a processor if only one class type is encountered at the site.
- 25 6. An apparatus comprising:
 means for calculating a number of inline class-type checks to minimize a cost of the class-type checks at runtime; and
 means for generating inline code for the number of class-type checks for a site in a method.
- 30 7. The apparatus of claim 6, further comprising:
 means for generating an out-of-line function call for any remaining class-type checks at the site that exceed the number.

8. The apparatus of claim 6, wherein the means for calculating the number further comprises:

- means for calculating the number based on a cost of the inline code, a cost of an
5 out-of-line class-type check, and a number of times the inline code fails.

9. The apparatus of claim 7, further comprising:

means for dynamically recompiling the method if a number of the out-of-line
function calls exceeds a threshold.

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10. The apparatus of claim 6, further comprising:

means for sorting the inline code based on a frequency of the class types.

11. A signal-bearing medium encoded with instructions, wherein the instructions when

15 executed comprise:

calculating a number of class-type checks;

generating inline code for the number of class-type checks for a site in a method;
and

20 generating an out-of-line function call for any remaining class-type checks at the
site that are not handled by the inline code.

12. The signal-bearing medium of claim 11, further comprising:

dynamically recompiling the method if a number of the out-of-line function calls
exceeds a threshold.

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13. The signal-bearing medium of claim 11, wherein the calculating further comprises:

calculating the number based on a cost of the inline code, a cost of the out-of-line
function call, and a number of times the inline code fails.

30 14. The signal-bearing medium of claim 11, wherein the calculating further comprises:

calculating the number of class-type checks based on a count of the object types encountered at the site at runtime.

15. The signal-bearing medium of claim 11, further comprising:

5 sorting the inline code based on a frequency of the class types.

16. An electronic device comprising:

a processor; and

10 a storage device encoded with instructions, wherein the instructions when executed on the processor comprise:

 calculating a number of class-type checks that minimizes a cost of inlining,

 generating inline code for the number of the class-type checks for a site in a method,

15 sorting the inline code based on a frequency of the class types, and

 generating an out-of-line function call for any remaining class-type checks at the site that exceed the number.

17. The electronic device of claim 16, wherein the calculating further comprises:

20 calculating the number based on a cost of the inline code.

18. The electronic device of claim 16, wherein the instructions further comprise.

 dynamically recompiling the method if a number of the out-of-line function calls exceeds a threshold.

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19. The electronic device of claim 16, wherein the calculating further comprises.

 calculating the number based on a cost of the out-of-line function call, and a number of times the inline code fails.

30 20. The electronic device of claim 16, wherein the calculating further comprises.

calculating the number based on a count of the object types encountered at the site at runtime.

21. The electronic device of claim 20, further comprising:

5 incrementing the count at runtime.